

accounted for most of the time spent on the shore. This behaviour was very different to what could be observed in another part of the same lake (see below) or in other parts of the Perth Metropolitan area like Pelican Point and Alfred Cove.

In contrast three species, namely number 3, 4 and 5 were actively feeding, running and catching insects with only brief intervals of rest or preening.

The time versus observation graph Figure 1 indicates clearly that the maximum number of birds occurred in November and early December 1981. During that period the water level was falling steadily. No explanation can be given for the paucity of birds during the remainder of December even though increasing amounts of shore area became available.

Different parts of a wetland may, however, produce different types and quantities of food for the species under study. This is then where additional, concurrent observations outside the study shoreline could assume an explanatory significance. While water levels were falling until the arrival of unusual and heavy rains in mid-January, 1982, muddy peat ridges were increasingly exposed in the southwestern sector of the lake. These ridges originated from the not-contoured or dredged lake bottom thereby being much shallower than the main part of the lake. Consequently in those shallower water areas with a summer depth of only 100 mm and on those emerging mounds or banks many waders were actively engaged in foraging. Birds were observed there continually from the beginning of the study until 18 January, 1982. Over 50 birds of different species were counted there on one occasion.

CONCLUSION

It was the intention of the developer to combine an ornamental lake with an increased and enhanced habitat for transequatorial waders. My brief study suggests that this attempt was only partly successful. Future projects of this type should concentrate on more shallow water areas or fenlands as distinct from landscaped or ornamental, but costly, foreshores.

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THE RUSTY-TAILED FLYEATER, A NEW SPECIES FROM QUEENSLAND

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INTRODUCTION

Two specimens of a hitherto undescribed taxon of flyeater (*Gerygone*, Acanthizidae, Passerines) have been discovered in the collection of the Australian Museum, Sydney (AM), and a third specimen is contained in the American Museum of Natural History, New York (AMNH). The AM specimens have been labelled as the Large-billed Flyeater *G. magnirostris* and the AMNH specimen as *Gerygone* sp. Though there is some doubt regarding the exact collecting localities of these specimens, they are so distinct and yet uniform in morphology, a description of a new taxon is warranted.

DESCRIPTION

The new taxon is designated as *Gerygone ruficauda*, sp. nov.

Holotype. AM registration number 0.17290, collected on 12 October 1885 at "Thirteen Mile River". A second label attached to the specimen in the 1960's has Rockingham Bay, Queensland.

Paratypes. AM 0.23356 collected on October 1867; locality uncertain but labelled as Wide Bay, Queensland. AMNH 606676 labelled New Guinea; purchased by Lord Rothschild from a dealer named Rosenberg.

Diagnosis. A broad-billed species nearest to *G. magnirostris* and the white-breasted populations of *G. chrysogaster*. Differs from *magnirostris* in having a quite rusty (not olive-brown) rump, rusty (not grey-brown) tail with no white tips and no blackish subterminal band, white supraloral lines (rather than white frontal spots), no ventral buff, and paler legs. Differs from *chrysogaster* in lacking yellow on the abdomen, being less whitish and slightly more greyish on the breast, and being less brownish on the back and head.

Measurements (mm) of AM specimens (holotype first). Wing 54.5, 55.5; tail 43, 43; culmen 12.4, 12.5; basal bill width 4.1, 4.1; tarsus 15.8, 16.0; hallux 8.2, 8.6.

Colour Description. Olive-brown on face, crown, neck, back and wings. Rust-brown tail and upper tail coverts (rump), more strongly so on latter. Whitish throat, breast, flanks, abdomen and under-wing coverts; apparently more greyish on breast. Narrow distinct white supraloral stripe from base of bill to white arc around top of eye. Narrow white arc below eye. Lores dark (blackish grey). Tail uniform in coloration with no white (terminally or subterminally) and no black subterminal band. Bill black. Legs brownish.

DISCUSSION

On the basis of bill proportions and coloration, the new flyeater is most closely allied to the Yellow-bellied Flyeater *G. chrysogaster* of New Guinea. The white-breasted populations of this species are quite like *ruficauda* on the tail, dorsum and face but are strongly yellow on the abdomen and under-tail coverts. For *chrysogaster* to have a representative in Australia is not surprising because in New Guinea it is both common and widespread throughout the lowlands up to 800 m in forest and second-growth scrubs (Meise 1931; Rand and Gilliard 1967), and would have had opportunity to spread into northern Australia, especially Queensland, during the last glaciation when Australia and New Guinea formed a single land mass. An excellent coloured photograph of the Yellow-bellied Flyeater is given in Peckover and Filewood (1976 p.77); the new taxon is like the bird on the right of the photograph except for the ventral yellow and the broken supraloral line. The Yellow-bellied Flyeater has a broad bill.

The Large-billed Flyeater *G. magnirostris* also has a broad bill, and it was with this taxon that the AM specimens had been confused. However, *magnirostris* has buff tones on the breast, a black subterminal tail band, slight white tipping on the inner vane of the tail feathers, and merely a frontal spot on each side of the base of the culmen.

E.P. Ramsay was curator of birds at the Australian Museum when the two AM specimens were procured. Therefore, the specimen labelled Rockingham Bay may have been collected by Kendall Broadbent and that labelled Wide Bay perhaps by John Rainbird. These collectors provided Ramsay with numerous specimens from Queensland (Whittell 1954). However, both specimens appear to have been prepared by the same person.

Ford (1981) gave a preliminary outline of phylogenetic relationships in the genus *Gerygone*. The Yellow-sided Flyeater *G. flavolateralis* of the New Hebrides and New Caledonia was suggested as being close to *G. chrysogaster*, a view opposed to that of Diamond and Marshall (1976) who believed *flavolateralis* had been derived from stock of the White-throated Warbler *G. olivacea* of eastern and northern Australia. Though all four species have yellow on the abdomen, this character is quite unreliable phylogenetically because it is neotonic and occurs in juveniles but not adults of several flyeater species and in both juveniles and adults of others. *G. flavolateralis* is a narrow-billed species strongly resembling the *G. fusca* - *G. igata* assemblage in facial and tail pattern and in nest; it is close to neither *olivacea* nor *chrysogaster*. Consequently, the *chrysogaster* group is confined to New Guinea lowlands, New Guinea satellite islands (Aru, Japen, Misol, Batanta and Waigeu) and north-eastern Queensland.

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NOTES ON NESTING OF GULL-BILLED TERNS (GELOCHELIDON NILOTICA)

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On 3 September 1980 a flock of about 20 Gull-billed Terns was observed 1-2 kilometres west of Lake Annean swooping down below the tree tops. At first they appeared to be feeding over a small lake, however on closer observation there was no water and the birds were hunting over dry mulga scrub. The direct flights from here to some islands in the centre of the lake suggested that they were feeding young.

After walking through mud and water up to a metre deep we investigated several of the islands and found three colonies totalling some eighty pairs which contained newly hatched young and eggs.

Together with Mr. Jim Masters I returned on 12 September to investigate the birds further, and to obtain photographs.

The birds were nesting in colonies, building on the low long sand spits out in the centre of the lake. Nests were strung out in a vague line along the beaches at intervals of 2-4 metres apart. Eight different groups had formed on seven different islands. Some of the colonies contained mainly fresh eggs while others contained mainly newly hatched young. The nests in the centre section were built first with later arriving birds building on the outside. Young were already hatched in the centre section of some colonies while on the extreme outside some were still making scrapes.

Colonies consisted of: No. 1 = 60 nests, No. 2 = 31 nests, No. 3 = 25 nests, No. 4 = 2 nests, No. 5 = 3 nests, No. 6 = 28 nests, No. 7 = 67 nests, No. 8 = 36 nests. During our four day stay a continuous loud dispute went on all day on another sand spit, and on the last day we noted that several new scrapes had been made. The 252 nests counted all contained eggs and young, and these together with the many new scrapes would indicate that there were about 600 birds present. Most nests were well made structures built of locally gathered samphire sticks and lined with finer twigs. Chips of soft stones were prominent in many nests; some of them had an elaborate pathway built to the water. The birds were observed close up from a hide actually making their scrapes and building their nests. The twigs were not carried to the nests, but picked up with the bill and tossed backwards towards the nest, then the accumulated material was built onto the nest.

Clutch size varied from one egg to five, three being common. Colour also varied, with few nests containing identical eggs. Both sexes incubated, changing often after less than one hour. The brooding bird flew off to the mainland to feed as soon as they were relieved from the nest. Grasshoppers and several species of skinks were brought back by the birds after flying several kilometres away, and these were fed to the young. Many appeared to be *Ctenotus* sp. Many of the skinks were 20 cm in length. The skinks were held in the bill by the neck although occasionally only the tail was brought in. The